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Report of the Executive Director on contraceptive requirements and demand for contraceptive commodities in developing countries in the 1990s

Summary

This report is being submitted to the Governing Council in response to decision 89/46 A, para. 22, which requested the Executive Director to report to the Council at its thirty-eighth session, detailing the Fund's current expenditures for contraceptives, its estimate of the contraceptive requirements of developing countries concerned during the remainder of the 1990s, and the specific plans of the United Nations Population Fund to take appropriate account of the increasing demands for contraceptive commodities, including the resources required and the implications for other programmes.

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INTRODUCTION

1. This report has been prepared in response to Governing Council decision 89/46 I, paragraph 22, which requested the Executive Director to submit to the Council at its thirty-eighth session a report detailing UNFPA's current expenditures for contraceptives, its estimate of the contraceptive requirements of developing countries concerned during the 1990s, and the specific plans of UNFPA to take appropriate account of the increasing demands for contraceptive commodities, including the resources required and the implications for other programmes.

2. In preparing this report, UNFPA undertook a one-year study to estimate contraceptive requirements throughout the developing world. The Fund worked closely with selected developing countries, especially the most populated ones, which account for most of the contraceptive demand world-wide, as well as with partner agencies and organizations of the United Nations, bilateral agencies and non-governmental organizations (NGOs). The Rockefeller Foundation, The Population Council and other organizations helped with the design of the methodology used to determine and project contraceptive needs. A consultant and an NGO prepared projections of the volume of contraceptives that could be provided through the commercial sector as well as produced locally. In the course of the study, UNFPA convened four expert group meetings, at which the study's objectives, methodology, initial findings and preliminary conclusions were discussed.

3. The findings of the study were discussed at the Consultative Meeting on Contraceptive Requirements and Demand for Contraceptive Commodities in Developing Countries in the 1990s, which took place at the United Nations on 25-26 February 1991. The 45 participants -- representing 11 developing countries, 14 donor countries, 4 intergovernmental organizations and 4 NGOs -- endorsed the major findings of the study, which have been incorporated in this report.

4. According to United Nations projections, the population of developing countries was about 4 billion in 1990. It is expected to reach 5 billion by the year 2000. If the population is not to exceed the United Nations medium-variant projection by the end of the century, all couples voluntarily deciding to limit their fertility must have access to the full range of contraceptive services they require and to contraceptive commodities that are suited to their specific socio-cultural conditions and value systems. Furthermore, the costs of such commodities must be affordable for the users, as well as for the countries, producers and donor agencies providing them.

5. To be meaningful, however, an estimate of contraceptive requirements must factor in the mix of contraceptive methods to be used in addition to the number of individuals using contraception and the rate of increase of contraceptive prevalence. The estimate provided in this report is based on the projected use of contraceptives that have been proven to be more effective than other methods in controlling fertility, namely, oral pills, intra-uterine devices (IUDs), condoms, injectables and sterilization.

I. ESTIMATION PROCEDURES

6. The exercise to project the volume and cost of contraceptives required to reach the fertility goals of the United Nations medium-variant population projection by the year 2000 was carried out in four stages. The first stage involved determining the contraceptive prevalence rates required to achieve the stated goals. The second stage entailed translating these prevalence rates into numbers of contraceptive users by applying the prevalence rates to the number of married women of reproductive age. Where estimates of unmarried women using contraception were available from surveys and other sources, they were included in the calculations. The third stage involved calculating the total quantities of different contraceptives required by applying the proportionate

unit of the various number of users and new accepto and the average quantity of each method required annually per user. The last stage produced the total annual cost for each method, by multiplying the quantity required by the unit cost.

7. The study estimated the numbers of contraceptive users for each of 108 developing countries whose combined population makes up almost 100 per cent of that of the developing world. Finally, the study estimated the number of contraceptive users that would be required to achieve replacement fertility. According to the analysis, a contraceptive prevalence rate of 75 per cent of married women of reproductive age is necessary to achieve replacement fertility. For the sake of comparison, the study also estimated contraceptive prevalence and number of users by country to accommodate the United Nations high and low population projections.

II. PROJECTION OF CONTRACEPTIVE REQUIREMENTS

A. Projection of contraceptive use, 1990-2000

8. United Nations projections suggest that the population of the developing world will reach 5 billion by the year 2000 (see table 1). The 1990 total fertility rate (TFR) in developing countries was approximately 3.8 births per woman and the estimated contraceptive prevalence (the proportion of married women of reproductive age practicing contraception) was 51 per cent. According to the latest United Nations medium-variant population projection, the fertility rate will fall to 3.3 births per woman by the year 2000. Reaching this challenging goal will require a substantial increase in both government commitment to and resources for family planning programmes including programmes in the governmental, commercial and non-governmental sectors.

Table 1. Developing Countries: Population by Sex, Women 15-49 and Married Women of Reproductive Age, 1990-2000
(Numbers in thousands)

	Population			Females	Married women of
Year	Total	Males	Females	15-49	reproductive age
1990	4,085,640	2,078,530	2,007,100	1,022,308	747,315
1991	4,175,360	2,123,834	2,051,518	1,046,222	768,892
1992	4,265,080	2,169,138	2,095,936	1,070,137	790,469
1993	4,354,800	2,214,442	2,140,354	1,094,051	812,045
1994	4,444,520	2,259,746	2,184,772	1,117,966	833,622
1995	4,534,240	2,305,050	2,229,190	1,141,880	855,199
1996	4,626,736	2,351,640	2,275,096	1,164,628	876,049
1997	4,719,232	2,398,230	2,321,002	1,187,376	896,898
1998	4,811,728	2,444,820	2,366,908	1,210,124	917,748
1999	4,904,224	2,491,410	2,412,814	1,232,872	938,597
2000	4,996,720	2,538,000	2,458,720	1,255,620	959,447

9. Two factors account for the large increase in contraceptive users that will be required to reach the United Nations medium population projection. First, there will be a large increase in the number of married women of reproductive age during the 1990s; second, the proportion of these women using contraception must be increased. During the 1990s, the number of married women of reproductive age in the developing countries will increase by about 212 million (28 per cent), from 747 million in 1990 to 959 million in 2000. Thus, even if the level of contraceptive prevalence remains at 51 per cent throughout the decade, implying no decline in the fertility rate, the number of contraceptive users will have to grow by about 108 million.

10. If the TFR in the developing countries is to decline to 3.3 births per woman by the year 2000, and if population growth between 1990 and 2000 is not to exceed 900 million persons, contraceptive prevalence must rise to 59 per cent. This seemingly modest percentage increase, when combined with the large growth in the number of married women of reproductive age, requires that the number of contraceptive users increase by 186 million, to 567 million in 2000. By far the largest increase in absolute terms will have to take place in Asia and the Pacific (140 million); considerably smaller increases will be required in Latin America and the Caribbean (18 million), sub-Saharan Africa (14 million) and the Arab States and Europe, covering North Africa and the Middle East (12 million). Proportionately, however, the greatest increase will have to take place in Africa (158 per cent); large increases will also be required in the Arab States and Europe (84 per cent), Latin America and the Caribbean (45 per cent) and Asia and the Pacific (44 per cent).

11. Meeting the United Nations high population projection (where the fertility rate will decline to 3.7 in the year 2000) requires that contraceptive prevalence increase to 57 per cent by the end of the decade. Under this scenario, the number of contraceptive users must grow by 170 million to 551 million. By comparison, reaching the United Nations low-variant population projection (with a TFR of 2.9) will require an increase in contraceptive prevalence to 65 per cent in 2000. The number of users will have to increase to 599 million by the end of the period, or some 32 million more than the medium projection goal of 186 million additional contraceptive users.

12. Attaining replacement fertility for each country in the world, an objective consistent with a TFR decline to 2.1 births per woman in 2000, requires a contraceptive prevalence level of 75 per cent in that year. This rate implies a near doubling in the number of users, from 381 million in 1990 to 720 million. These two goals will be extremely difficult, if not impossible, to reach, as the data suggest that as much as 80 per cent of the increase will take place in countries where contraceptive prevalence was less than 60 per cent in 1990. Reaching replacement fertility levels in countries with contraceptive prevalence of 60 per cent or more in 1990 -- including Brazil, China, Colombia, the Republic of Korea, Thailand and Turkey -- will require a combined increase of 72 million users.

B. Method-specific projections

13. Table 2 shows estimated numbers of users of different contraceptive methods required to meet the United Nations medium-variant population projection goal of reducing the TFR to 3.3 births per woman by 2000. At present, voluntary sterilization is by far the most prevalent method of contraception in the developing countries; IUDs and oral pills are second and third. Among contraceptive users in 1990, 171 million (45 per cent) relied on sterilization, nearly 141 million of whom (37 per cent of all users) were women. Some 93 million users (24 per cent) relied on IUDs. Pill users numbered 46 million (12 per cent of the total). Another 23 million users (6 per cent) relied on condoms and 12 million (3 per cent) on injectables. Other methods, mostly traditional, were the choice of slightly fewer than 10 per cent of all users.

Table 2. Developing Countries: Number of Users of Contraceptives, by Method, 1990-2000
(Numbers in thousands)

Year	Sterilization			Pill	Inject-able	IUD	Condom	Other	Total Users
	All	Female	Male						
1990	170,716	140,993	29,665	45,662	12,363	92,548	22,747	36,947	380,925
1991	178,629	147,552	30,976	47,216	12,985	95,000	24,029	41,063	398,820
1992	186,542	154,111	32,287	48,770	13,606	97,452	25,310	45,179	416,715
1993	194,456	160,670	33,599	50,324	14,228	99,904	26,592	49,294	434,611
1994	202,369	167,229	34,910	51,878	14,849	102,356	27,873	53,410	452,506
1995	210,282	173,788	36,221	53,432	15,471	104,808	29,155	57,526	470,401
1996	218,938	180,376	38,324	57,764	16,616	108,853	30,313	57,480	489,725
1997	227,594	186,964	40,427	62,096	17,761	112,897	31,471	57,433	509,049
1998	236,250	193,551	42,530	66,428	18,907	116,942	32,629	57,387	528,374
1999	244,906	200,139	44,633	70,760	20,052	120,986	33,787	57,340	547,698
2000	253,562	206,727	46,736	75,092	21,197	125,031	34,945	57,294	567,022

14. The largest number of contraceptive users choosing sterilization are in the Asia and Pacific region -- 152 million (89 per cent of the developing country total). Among the regions, Asia and the Pacific also has, at 49 per cent, the highest use of sterilization as a proportion of all contraceptive methods (49 per cent). The proportion of use of sterilization is also quite high in the Latin America and the Caribbean region as a whole, accounting for some 37 per cent of all methods. The Asia and Pacific region also has the largest number and proportion of IUD users -- nearly 83 million, or 27 per cent of all users. This is followed by the Arab States and Europe, in which more than 20 per cent of all users rely on IUDs.

15. The largest number of contraceptive pill users is in Asia and the Pacific, although only 8 per cent of all users there depend on the pill, a far smaller proportion than in the Arab States and Europe (33 per cent of users), Latin America and the Caribbean (29 per cent) or Africa (26 per cent). Condoms apparently are the choice of only 6 per cent of users in the developing countries, but this estimate is probably too low, given the increasing use of condoms to help prevent the spread of AIDS. Indeed, according to available survey data, condoms are most used in Asia and the Pacific (12 per cent), and more or less equally used in the other regions (5-7 per cent).

16. Reliance on voluntary sterilization has been steadily growing in the developing countries. To reach United Nations medium population projection goals, the number of sterilization users will have to increase from 171 million to 254 million in 2000 (i.e., by 49 per cent). The number of IUD users will have to increase from 93 million to 125 million (34 per cent); the number of pill users from 46 million to 75 million (64 per cent); the number of condom users from 23 million to 35 million (54 per cent); and the number of injectable users from 12 million to 21 million (71 per cent).

C. Estimates of acceptors

17. Arriving at a meaningful estimate of contraceptive acceptors involves a set of assumptions. The first assumption is that since sterilization and IUDs are effective for longer than one year, a substantial proportion of users each year, depending on the average duration of effective use, are carried over to the following year. Thus, additional acceptors are needed both to make up for those who drop out (e.g., women who pass their child-bearing years), as well as to meet the required overall increase in the number of users. A second assumption, based on empirical studies, is that, on average, an IUD is effectively used for 3.5 years. Thus, the number of

annual acceptors is approximately equal to the estimated number of IUD users multiplied by 1/3.5, or 0.2857. Similarly, in terms of statistical categories sterilization is considered effective from the time of the procedure until the woman passes out of her reproductive years (or no longer cohabits or dies). A third assumption involves the user continuation rates for oral pills, condoms and injectables, which are known to vary widely. Since such variation in rates markedly influences the calculation of acceptors for oral pills, condoms and injectables, and since the primary interest here is contraceptive commodity requirements, more complex exercises for estimating separately continuing users, discontinuers and new acceptors of these methods are unnecessary.

18. Increasing the number of contraceptive users opting for sterilization from 171 million to 254 million over the course of the decade will require adding 151 million acceptors. Since sterilization accounts for a very large proportion of contraceptive use, the researchers conducted an additional analysis, using a different methodology, to estimate the number of users and acceptors for the period through 2000. The estimates resulting from this analysis were very close to those from the first one, 148.7 million acceptors compared with 150.7 million, respectively.

D. Contraceptive commodity requirements

19. Table 3 presents estimates of contraceptive commodity requirements in terms of number of sterilization procedures, cycles of oral pills, doses of injectables, IUD insertions and condoms. The estimates are based on the assumption that each user requires 15 cycles of oral pills, four doses of injectables and 150 condoms (125, plus 20 per cent for wastage) per year. For sterilization the commodity requirement estimates include mini-laparotomy surgical kits, vasectomy kits, Laprocator systems and other supplies. Requirements for IUD insertion and NORPLANT sub-dermal implants were also included in the calculations.

Table 3. Developing Countries: Contraceptive Commodity Requirements, by Method, 1990-2000 (Numbers in thousands, except if otherwise specified)

Year	Sterilization			Pill Cycles (millions)	Inject-able	IUD	Condoms (millions)
	All	Female	Male				
1990	11,950	9,870	2,077	685	49,452	26,442	3,412
1991	12,504	10,329	2,168	708	51,938	27,143	3,604
1992	13,058	10,788	2,260	732	54,425	27,843	3,797
1993	13,612	11,247	2,352	755	56,911	28,544	3,989
1994	14,166	11,706	2,444	778	59,398	29,245	4,181
1995	14,720	12,165	2,535	801	61,884	29,945	4,373
1996	15,326	12,626	2,683	866	66,465	31,101	4,547
1997	15,932	13,087	2,830	931	71,046	32,256	4,721
1998	16,538	13,549	2,977	996	75,626	33,412	4,894
1999	17,143	14,010	3,124	1,061	80,207	34,568	5,068
2000	17,749	14,471	3,272	1,126	84,788	35,723	5,242
199 2000	150,747	123,977	26,645	8,756	662,688	309,780	44,416

20. Based on the above assumptions, UNFPA estimates total contraceptive requirements in developing countries between 1990 and the year 2000 as follows: 151 million surgical procedures for female and male sterilizations, 8.76 billion cycles of oral pills, 663 million doses of injectable contraceptives, 310 million IUDs and 44 billion condoms will be required. The numbers appear somewhat less formidable if expressed in terms of yearly averages: 15 million sterilization procedures, 876 million cycles of pills, 66 million doses of injectables, 31 million IUDs and 4.4 billion condoms.

III. LOCAL PRODUCTION OF CONTRACEPTIVES

21. Numerous means have been used to try to meet the contraceptive requirements of developing countries. These include importing contraceptive commodities through commercial channels, procuring commodities from donors through multilateral and bilateral arrangements, and producing contraceptives locally. The latter is defined as the partial or complete manufacture of contraceptives by either a government or a commercial company in a developing nation. As early as the 1970s, the growing demand for contraceptives in the developing world resulted in the need to explore new alternatives to ensure the timely and continuous supply of contraceptives. One such alternative was local production. In 1975, the United Nations Industrial Development Organization (UNIDO) prepared a report for UNFPA reviewing the availability of raw materials and the feasibility of producing contraceptives locally. The International Contraceptive Study Project, a UNFPA-sponsored study focusing on anticipated public-sector contraceptive supply and demand, was completed that same year. The study recognized the importance of producing contraceptives locally and recommended that national governments, in appropriate collaboration with commercial manufacturers, promote local production of contraceptive commodities.

22. This section of the report draws upon information that was made available by the Program for Appropriate Technology in Health (PATH), an NGO that has served as an executing agency for a number of UNFPA-funded local production programmes. PATH obtained additional information at field sites while conducting feasibility studies and follow-up activities during the implementation of some of the programmes. In addition to gathering data from private, governmental and NGO sources, PATH obtained information from UNFPA as well as bilateral assistance agencies in donor countries. The review provided below is limited to four contraceptive methods: oral pills, IUDs, condoms and injectables.

A. Current status of local contraceptive production

23. In 27 developing countries, the production of oral pills, IUDs, condoms and injectables is ongoing or, in a few cases, under serious consideration. Affiliates of multinational companies carry out most of the local production; government-owned and local private companies are responsible for the rest.

24. Twenty of the 27 countries have the capacity to produce oral pills, the contraceptive most frequently produced locally. Four other countries are either developing such capacity or considering establishing it. By contrast, only six countries are involved in manufacturing injectables, the method least frequently produced locally. Condoms are second in frequency of production: nine countries produce condoms, most of them in high volume; at least five others are considering new production ventures. Eight countries manufacture IUDs or have production facilities in advanced stages of preparation; new production ventures are under serious consideration in at least two others.

25. Multinational companies play a major role in the local production of oral pills (participating in production in 16 of the 20 countries with production capacity) and condoms (five out of nine). Domestic private companies or Governments are involved less frequently in the manufacture of oral pills (8 out of 20 countries) but more often in the production of IUDs (five of the eight countries with manufacturing capacity).

26. China, Indonesia and Mexico produce all four types of contraceptives locally. In Indonesia and Mexico, non-government ventures are involved; in Indonesia the Government and private sector collaborate in local manufacture.

B. Donor support for local production

27. Only a handful of external assistance agencies have participated directly in the financing of contraceptive production in the developing world. UNFPA has taken the major initiative in this direction in 12 countries since 1970. U.S. Agency for International Development (USAID), PATH, The Population Council and other agencies have also been active in a variety of countries.

28. Since 1970, UNFPA has supported projects related to the local production of contraceptives in 12 countries. In China alone, UNFPA expenditures to date exceed $20 million. Over the past 10 years, the Fund has provided technical and financial assistance to factories in China producing condoms, IUDs, injectables, bulk steroids, oral pills and vaginal tablets and suppositories. In India, UNFPA funded a feasibility study that preceded the start of IUD production there. Following initial successes, India's production capacity is now being expanded. UNFPA also helped to establish condom production capability in Viet Nam and to produce IUDs in Indonesia. Both ventures benefited from UNFPA-funded feasibility studies. The Fund also supported feasibility and opportunity studies in other countries, including Cuba and the Democratic People's Republic of Korea. Such activities have provided UNFPA, and collaborating agencies, with useful background knowledge for future involvement in local production.

29. USAID also has been active in local contraceptive production, supporting related activities in at least eight countries since 1970. In the early 1970s, USAID, in cooperation with The Population Council, transferred the technology needed to manufacture Lippes Loop IUDs to Egypt, Hong Kong, India, the Republic of Korea and Pakistan. USAID also provided raw materials and training to the Indonesian Government pharmaceutical group to manufacture oral pills, funded feasibility studies for the production of oral pills and IUDs in India and of oral pills in Zimbabwe, and assisted Pakistan in reviewing various options for the local production of condoms, hormonal contraceptives and IUDs. USAID recently commissioned a desk study of local contraceptive production in the private sector to help formulate its strategies for possible future involvement in local production activities.

30. Other intergovernmental, governmental and private organizations have also actively supported the local production of contraceptives throughout the developing world. The World Health Organization and PATH, for example, recently collaborated to help establish the Concept Foundation, which has been working with commercial manufacturers to facilitate the transfer of production technology for once-a-month injectable contraceptives to Indonesia, Mexico and Thailand. The Australian International Development Assistance Bureau (AIDAB) has been supporting activities in Viet Nam, and the Finnish International Development Agency (FINIDA) has offered to sponsor related activities there. The Government of the Netherlands has supported similar work in Indonesia. The Population Council has sponsored activities in Brazil, China, Egypt, Indonesia and Pakistan. PATH, primarily through its implementing arm for contraceptive related projects, the Program for the Introduction and Adaptation of Contraceptive Technology (PIACT), has worked as a technical assistance and executing agency for UNFPA and USAID in the feasibility assessment or implementation of local production in Bangladesh, Brazil, China, Cuba, Egypt, India, Indonesia, Pakistan, Turkey and Viet Nam.

31. Historically, donor agencies have supported both the public and the private sectors. For instance, in socialist countries, where trading ties to the West and availability of foreign exchange have been limited, UNFPA has responded positively to government requests for assistance. UNFPA has also supported private-sector approaches, as in Bangladesh, where it financed a study that addressed the expansion of oral pill production within a private-sector facility.

C. Estimated capacity for contraceptive production in developing countries

32. A UNFPA review of the local production of oral pills, injectables, IUDs and condoms in a core set of 16 developing countries[1] assessed these countries' production capacity in 1990, projected how much this capacity would expand by the year 2000 and contrasted this expanded production capacity with estimated and projected commodity requirements. The 16 countries reviewed account for some 90 per cent of the developing world's contraceptive requirements. The estimates of commodity requirements provided in this section are for all contraceptive users, regardless of whether they obtain their methods from private- or public-sector sources. Production capacity estimates are based on available data for manufacturers, regardless of whether their products are marketed in the private or the public sector.

33. According to information for 1990, production capacities in 7 of the 16 countries reviewed are either non-existent or below estimated national requirements for all four methods studied; 6 countries have at most the capacity to produce only one type of contraceptive. Some countries have excess capacity: the Republic of Korea, for example, produced 1.26 billion more condoms than its estimated local requirements for 1990. Mexico, by contrast, has production capacity above national requirements for three methods but has inadequate capacity for full-scale condom production; a reported joint Korea-Mexico venture, however, will create what is expected to be the largest condom factory in Latin America. Pakistan has adequate capacity for the production of injectables and Lippes Loop IUDs, although it is dependent on imports for oral pills, condoms and copper-bearing IUDs.

34. Furthermore, projected increased requirements for the year 2000 will turn 1990 surpluses into deficits for pill production in China and Indonesia, and for IUDs in China. Shortfalls may occur despite projected expansions in capacity, such as for oral pills in Indonesia, Thailand and Turkey. Among the countries currently with excess production, surplus margins will decline -- in Brazil for condoms, Indonesia for IUDs, Mexico for pills and IUDs -- primarily because the expansion of capacity will not keep pace with demand.

35. In some cases, excess capacity may be overestimated, however. Outmoded types of contraceptives -- such as high-dosage pills in 21- or 22-day formats, stainless-steel IUDs and certain formulations of injectables -- account for a significant portion of excess capacity. In some instances a large excess capacity -- such as in the Republic of Korea for condoms -- is used for exports to developed countries. There appears to be a significant need to expand oral pill production, as a shortfall of oral pills is projected by the year 2000 for 10 of the 13 countries studied that currently produce such contraceptives. Manufacturers in several countries are confident, however, that they can easily expand production to meet rising demand.

36. Although some countries have an inadequate supply of contraceptives, this is not necessarily due to insufficient production capacity. Rather, it is often the result of the generally poor quality of contraceptive products, inadequate demand, and lack of appropriate expertise in the manufacture and distribution of commodities, as illustrated by the cases of Cameroon (orals and condoms) and Colombia (condoms and IUDs).

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[1]Bangladesh, Brazil, Cameroon, China, Colombia, Egypt, India, Indonesia, Republic of Korea, Mexico, Pakistan, Philippines, Thailand, Turkey, Viet Nam and Zimbabwe.

D. Cost of local production

37. It is possible to make preliminary, albeit rough, estimates of the financial resources required to support local production in these 16 countries up to the year 2000. It is worth noting, however, that there is a wide range in capital costs from country to country and that the proportion of operating costs requiring foreign capital is moderate in almost all countries. Experience suggests that at least five categories of donor-supported activities are pertinent in estimating the costs of local production: assuring quality control, conducting feasibility studies, upgrading production, expanding existing capacity and establishing new facilities.

38. The estimated costs of funding such activities presented below are understandably preliminary and do not take into account the costs of procuring contraceptives during the time required to establish a local production facility. Nor do the estimates presented here take into account the cost of providing needed technical assistance and follow-up for such continuing activities as monitoring of manufacturing practices.

1. Quality assurance

39. Donor assistance in this area covers a wide range of activities including establishing laboratories to test products, providing technical assistance to develop and implement national monitoring plans, and conducting training for in-factory testing (both in-process and of the final product). Such activities are indicated even in countries that do not manufacture contraceptives and may have little prospect for doing so because even imported contraceptives must meet quality standards. In some instances, such as in the Republic of Korea for condom production, technical assistance in this area is not required. For the purpose of estimating the financial resources required, the average technical assistance cost per country is set at $125,000 per five-year period for each of the four methods under consideration. All 16 countries reviewed offer opportunities for donor assistance for quality-assurance activities.

2. Feasibility studies

40. Depending on the local situation, these studies would range from preliminary reviews to detailed feasibility studies. Such reviews and studies are essential in any country in which local production is even a remote possibility. The estimated costs for these studies range from $45,000 to $100,000, depending on the country, method, volume of capacity required, whether prior studies have been carried out and other variables. Depending on the contraceptive method and the level of demand for contraceptive commodities, over the next 10 years feasibility studies may be considered in 14 of the 16 countries reviewed.

3. Upgrading production

41. Typical activities in this area include technical assistance in reformulating product, providing technical training and purchasing imported production equipment and analytical instruments. Estimated costs vary considerably, depending on method, type of upgrading, magnitude of production envisioned, baseline capacity and country. For the 16 countries examined, the estimates presented here cover a wide range -- between $250,000 and $3 million -- but more precise estimates would depend on the results of feasibility studies. As many as 12 of the 16 countries reviewed may be in need of upgrading production facilities for one or more methods over the next 10 years.

4. Expanding capacity

42. Resources would be used primarily to purchase equipment from abroad. The estimates are very general, since the actual requirements can be assessed only by studying each facility's needs. For example, actual costs may

be relatively low if a facility needs only to increase the number of hours of production per day, but high if extensive renovations are necessary. Over the next 10 years, 7 of the 16 nations reviewed may have to expand existing production capacity for one or more methods.

5. Establishing new facilities

43. Assistance in this area is commonly required for such activities as designing facilities and developing production processes and covers the cost of production equipment and analytical instruments, overseas training and on-site technical assistance for production and quality assurance. At least 7 of the 16 countries reviewed may need new facilities for one or more methods over the next 10 years: Bangladesh (condoms), Egypt (IUDs and eventually condoms), Mexico (condoms), Pakistan (condoms), Turkey (condoms and eventually IUDs), Viet Nam (IUDs) and Zimbabwe (pills).

E. Summary of costs for the next decade

44. There are two possible scenarios to facilitate an overall assessment of the costs required to support local production activities. The first scenario assumes that donor agencies will cover all financial responsibilities for technology transfer, including technical assistance and capital investment. The second scenario makes the more probable assumption that the private sector will provide the major portion of the capital investment, while donor agencies will support most of the activities related to quality assurance and feasibility studies. The overall 10-year costs for the international assistance community, regardless of which scenario is used, range from $46 million to $147 million.

45. The above estimates, however, indicate only the relative magnitude of the costs required to support the next 10 years of local production in 16 countries. These estimates are dependent on many variables, such as the projected commodity requirements, estimated production capacities and the status of specific production facilities, among others. As a result, the actual cost of assisting local production will be determined only through detailed, on-site reviews and feasibility studies on a country-by-country basis.

46. Despite these limitations, the estimates do provide a useful guide for setting priorities for future planning and programmes over the next two five-year periods. In both scenarios a major portion of the funds may be expended by the end of the first five years. In the scenario relying on private investment, the chief costs to donor agencies will be for quality assurance ($14.5 million) and for ongoing projects to upgrade, expand or start up facilities ($30 million). If the private sector does not invest in these projects, the major costs to donors will be for capital investments to initiate new facilities and to expand or upgrade old ones. It is worth noting, however, that even under the first scenario, in which donor agencies assume financial responsibility for all technology transfer, donor assistance would cover only 2.9 per cent of the estimated total $5.1 billion cost for contraceptives for the entire period 1991-2000.

47. In estimating the costs to the donor community of producing contraceptives locally, the analysts for this report took into consideration regional variations in local capacity. It was found, for example, that in some countries of Asia and Latin America, public- or private-sector investments might meet most of the costs, although some international donor assistance would be needed to help defray the cost of equipment, technology transfer and training. Most of the countries in the Africa region, however, would likely require grants to cover 100 per cent of local production. In some countries in the region, concessional loans for initial investments might also play a role. Even if these estimates are somewhat optimistic, in view of the many production ventures in progress or under consideration in the developing world, donor projects to upgrade, expand and initiate local production are highly feasible at relatively modest costs.

IV. DISTRIBUTION OF CONTRACEPTIVES

48. Access to and availability of contraceptives are among the most important elements in reducing fertility. In developing countries, men and women may obtain contraceptives from a variety of sources, including the private commercial sector, government clinics and hospitals, non-governmental sector outlets, and contraceptive social marketing (CSM) and community-based distribution (CBD) systems. This section of the report deals with two important sectors of contraceptive distribution: the commercial sector, and social marketing and community-based systems. In the analysis that follows, countries are listed in descending order in each respective category under consideration.

A. The share of the commercial sector

49. The commercial sector, which sells contraceptives for profit, is one of the main channels by which men and women obtain contraceptive supplies. Commercial sources of contraceptive supplies include, among others, pharmacies; private physicians, nurses, midwives, clinics or hospitals; stores; vending machines; and even traditional health practitioners. The data used in this analysis for the commercial sector came primarily from published documents and survey results, including the results of the latest demographic and health surveys. Sales records of prescription contraceptives for the past 7-15 years were another important source of information for this section.[2]

50. This section presents data on the commercial sector's share in meeting the requirements for oral pills, condoms, IUDs and injectables during the 1990s. Because of difficulties in obtaining accurate information on all developing countries, the analysis concentrated on 25 countries (excluding China and Viet Nam). The country studies were divided into two groups: those with a contraceptive prevalence rate of 60 per cent or more, and where therefore the TFR is likely to reach 2.1 birth per woman by the end of the decade; and those with a contraceptive prevalence rate of less than 60 per cent. The projections of contraceptive needs are based on two assumptions: that the mix of methods used will not change between 1990 and 2000, and that the trends of the past 7-15 years will persist over the next 10 years.

1. Oral pills

51. The commercial sector's share of the number of cycles of oral pills will increase from 224 million in 1990 to 337 million in 2000. However, its share as a proportion of the total requirement will decrease slightly, from 34 per cent in 1990 to 31 per cent in 2000. The commercial sector's role will be greatest in Brazil, India, Mexico, Bangladesh and Egypt. It is noteworthy that Brazil alone accounts for about 40 per cent of the commercial share of oral pills. No data on commercial sources are available for China; although China is expected to require the largest volume of oral pills, the demand is expected to be met by public sector production.

52. The Asia and Pacific region will require the largest number of oral pill cycles between 1990 and 2000. The proportion of the regional requirement satisfied by the commercial sector will be largest in Latin America and the Caribbean (over 70 per cent), considerably lower in the Arab States and Europe (about 40 per cent) and quite low in Asia and the Pacific (17 per cent) and Africa (15 per cent).

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[2]These were derived from pharmaceutical audit data from the International Medical Statistics, published in Population Reports, Series A, Nos. 6 and 7.

53. Commercial supply in the seven African countries for which data are available will account for only about 15 per cent of regional oral pill requirements for the decade. Nigeria and Ghana together will account for 86 per cent of commercial-sector oral pill supplies in the region in 2000; Uganda, Senegal, Zimbabwe, Kenya and Liberia (in descending order) will account for the remaining 14 per cent of the region's commercial share.

54. Similarly, data for seven countries in Asia and the Pacific show that commercial sources will account for about 17 per cent of the region's requirements between 1990 and 2000, and that two countries will dominate: India and Bangladesh will account for more than 60 per cent of the regional commercial total; Indonesia, Thailand, the Philippines, Pakistan and the Republic of Korea will make up the rest.

55. In Latin America and the Caribbean, according to data from eight countries, the commercial sector accounted for 71 per cent of the regional requirement (124 million cycles) in 1990. The sector's share will remain roughly the same in the year 2000 (70 per cent), although the volume will increase by over 40 per cent (175 million cycles). By the end of the decade, Brazil and Mexico together will account for more than 80 per cent of the regional commercial sector total. The other six countries -- Colombia, Ecuador, Peru, the Dominican Republic, Trinidad and Tobago, and El Salvador -- will account for the remaining 20 per cent. Data available for three countries in the Arab States and Europe show that commercial sources in these two areas will account for about 40 per cent of the region's oral pill requirements throughout the decade. More than 90 per cent of the commercial-sector total will come from Egypt and Turkey; the remainder, from Tunisia.

2. Condoms

56. In the coming decade the commercial sector will account for about 12 per cent of the total required condoms - 373 million units (12 per cent) in 1990 and 642 million units (13 per cent) in 2000. The countries with the highest commercial volume are (in descending order) Bangladesh, Turkey, Indonesia, Brazil, Egypt, Nigeria and Mexico; these seven together will account for 87 per cent of the total commercial share. Although India is likely to require the largest volume of condoms, its commercial sector will account for only about 1 per cent of the total.

57. The region showing the largest commercial-sector share for condoms is the Arab States and Europe, accounting for 68 per cent of the regional requirement in 1990 and dropping slightly to 64 per cent in 2000. Asia will require the largest volume of condoms, but its commercial sector will provide the smallest proportion -- only about 5 per cent throughout the decade. The commercial sector in Africa accounted for 47 per cent of the regional requirement in 1990 and will account for 43 per cent in 2000; in Latin America and the Caribbean the figures are 40 per cent and 41 per cent, respectively.

58. The commercial sector in five African countries accounted for 25 million units of condoms in 1990 (47 per cent of the regional requirement); that number will rise to 57 million units (43 per cent) in 2000. Nigeria alone will account for almost 90 per cent of Africa's commercial condom supply during the next 10 years. Ghana, Kenya, Zimbabwe and Liberia (in descending order) will account for the other 10 per cent.

59. Commercial sources in Bangladesh, Thailand and Indonesia -- the three countries in the Asian and Pacific region with the largest commercial-sector shares for condoms -- will account for only about 5 per cent of the region's condom supply between 1990 and 2000. The total regional requirement was about 3 billion units in 1990 and will be 4 billion in 2000, but the commercial-sector shares are only 135 million units (5 per cent) and 259 million units (6 per cent), respectively.

60. Data for seven Latin American and Caribbean countries show that commercial sources accounted for 98 million units of condoms (40 per cent of the region's requirement) in 1990; the sector's share will be 143 million

units (41 per cent) in 2000. Brazil, Mexico and Colombia will account for 90 per cent of the commercial total; Peru, Trinidad and Tobago, El Salvador and the Dominican Republic will account for the remaining 10 per cent.

61. In the Arab States and Europe, data for three countries show that commercial sources provided 114 million units in 1990 (68 per cent of the region's requirement); the commercial sector's share will be 183 million (64 per cent) in 2000. Egypt and Turkey will account for almost 100 per cent of the commercial total; Tunisia, for a small share of the volume.

3. IUDs

62. In the 18 countries for which data are available, the total volume of IUDs made available commercially was about 1 million units for 1990; this will rise to 1.7 million by the year 2000 (4 per cent and 5 per cent, respectively, of total requirements). Mexico, Egypt, Turkey and Indonesia dominate the commercial total. By region, Asia and the Pacific will require the largest volume of IUDs. However, the commercial sector's share will be less than 1 per cent there. The Arab States and Europe region shows the highest commercial share -- 46 per cent of the regional requirement in 1990 and 45 per cent in 2000. Latin America and the Caribbean's commercial share was 34 per cent of the regional requirement in 1990 and will be 37 per cent 10 years later; the figures for Africa are 6 per cent and 4 per cent, respectively.

63. In Africa, data are available for five countries. Of the total regional IUD requirement, commercial volume was about 9,000 units in 1990 and will rise to 33,000 units in 2000. However, the proportion decreases from 6 per cent to 4 per cent over the decade. Nigeria, Kenya and Senegal together will account for more than 80 per cent of the regional commercial total; Zimbabwe and Ghana will account for the remainder.

64. In the two Asian and Pacific countries for which data are available, India and Indonesia, the total volume of the commercial sector is estimated at 138,000 units (less than 1 per cent of the region's requirement) for 1990. For the year 2000, the number is 214,000 units (also less than 1 per cent). Indonesia alone will account for about 90 per cent of the regional total.

65. It is noteworthy that Mexico alone will account for almost 80 per cent of the Latin America and Caribbean region's commercial total in the year 2000. Brazil, Colombia, Peru, Ecuador, the Dominican Republic, Trinidad and Tobago and El Salvador follow. Commercial sources in the region accounted for 429,000 units (34 per cent) in 1990 and will increase to 660,000 units (37 per cent) by the end of the decade.

66. The commercial sector of the Arab States and Europe, according to the available data from three countries, accounted for 454,000 units (46 per cent of the requirement) in 1990. The sector's share in the year 2000 will remain relatively the same (45 per cent) although the volume will increase substantially to 769,000 units. Egypt and Turkey will account for more than 90 per cent of the regional commercial total; Tunisia will account for the remainder.

4. Injectables

67. Data on injectables were available for 12 countries. The volume supplied by the commercial sector is estimated at 4.4 million units for 1990 and 7.9 million units for the year 2000. Despite the increase in volume, the proportional share (10 per cent) remains the same throughout the period. Indonesia shows the largest commercial-sector volume -- 4 million units in 1990 and 7 million in 2000, or 90 per cent of the commercial-sector total in both years. Thailand, Colombia, Peru, Nigeria, Kenya, Turkey, Uganda, Ecuador, El Salvador, Bangladesh and the Dominican Republic will account for the rest. Asia and the Pacific will require the largest volume of injectables, but the Latin America and Caribbean region shows the highest proportion provided through

the commercial sector -- 16 per cent of the region's requirements in 1990 and 15 per cent in 2000. By the end of the decade, the next highest proportion will be in Asia; the proportions for Africa and the Arab States and Europe will follow closely behind.

68. Commercial data available for three African countries show a regional commercial-sector volume of 157,000 units in 1990 and an increase to 325,000 units in 2000. However, as a share of total requirements, these numbers reflect a decrease from 9 per cent to 8 per cent. Nigeria and Kenya will dominate commercial-sector participation; Uganda will account for a small share.

69. The commercial sector provided 4 million units of injectables (9 per cent of the total requirement) in the Asia and Pacific region in 1990; it will provide 7 million units (almost 10 per cent) in 2000. Indonesia will account for 90 per cent of the regional commercial total; Thailand and Bangladesh will share the rest.

70. The total commercial volume in five Latin American and Caribbean countries was 500,000 units in 1990 and will be 725,000 in 2000. The commercial sector's proportional share remains at about 15 per cent throughout the decade. In Colombia, the commercial volumes of 341,000 units in 1990 and 466,000 units 10 years later constitute, respectively, 67 per cent and 64 per cent of the regional commercial total. Peru, Ecuador, El Salvador and the Dominican Republic account for the rest. For the Arab States and Europe, data are available only for Turkey. The commercial sector there accounted for 40,000 units of injectables in 1990 and will account for 63,000 in 2000 (11 per cent and 10 per cent, respectively, of the regional requirement).

5. The commercial sector as a whole

71. In conclusion, the analysis indicates that for oral pills, condoms, IUDs, and injectables, the role of the commercial sector is not likely to change significantly by the year 2000. This implies that the public sector will continue to meet the major portion of the developing world's contraceptive requirements during the 1990s. For oral pills, the commercial sector accounted for 34 per cent of the requirements in 1990; this figure will decrease to 31 per cent by the year 2000. For condoms the commercial sector share will be about 12 per cent during the next 10 years; for IUDs, about 5 per cent; and for injectables, about 10 per cent. The commercial sector share is highest for oral pills because of Brazil's high level of consumption in this area. Brazil will account for about 40 per cent of the total commercial share for this method.

B. Contraceptive social marketing and community-based distribution systems

72. Since the early 1980s, contraceptive social marketing (CSM) has been more cost-effective in reaching contraceptive users than public channels have. Social marketing seeks innovative partnerships with the private sector and enjoys public-sector support as well. It uses systematic market research to determine the demand for contraceptives, sets up creative publicity and community-based distribution channels, organizes effective logistical and support mechanisms, uses the results of socio-cultural research as a basis for planning and programming, uses scientific management information systems to facilitate distribution to specific target groups, and generally subsidizes part of the price of the commodity.

73. Because the social-marketing approach relies heavily on private distribution schemes, determining the exact proportion of contraceptives passing through this channel is extremely difficult. USAID has estimated that since 1985, social marketing has contributed 2.1 million couple-years-of-protection, mainly among low-income individuals in 22 developing countries. The approach has proven an efficient means for making contraceptives available to specific target groups and for reaching underserved areas.

74. The goal of social marketing is to reach low-income groups, who would otherwise need free government services; high-income groups presumably can pay full commercial prices for contraceptives. A 1989 analysis of seven social marketing programmes (in Barbados, Colombia, the Dominican Republic, Indonesia, Jamaica, Mexico and Nepal) revealed that their consumers came mainly from lower socio-economic groups -- 85 per cent or more in Barbados, the Dominican Republic and Jamaica.

75. Social marketing depends very heavily on creative advertising campaigns to increase contraceptive prevalence. Several studies on the impact of this approach have found increased prevalence associated with advertising. However, while advertising may expand the volume of contraceptive sales, it may not actually raise the overall prevalence, because social marketing advertising may motivate some persons to shift from one contraceptive to another (substitution). Furthermore, although some men and women may start using contraceptives as a result of such advertising, they may choose products or services other than those the programme offers (the so-called halo effect). Several USAID-supported studies of these effects of advertising are under way, but only preliminary results are available. A 1987 study in the Dominican Republic, for example, showed that 34 per cent of women using the oral pill Microgynon were new acceptors and 10 per cent had switched from less-effective methods. The study also showed that the oral pill market in that country grew by 60 per cent between 1982 and 1986 because of motivational effects of the promotion of Microgynon.

76. Social-marketing programmes generally introduce contraceptives at a subsidized price. In countries where contraceptive prevalence is high, this may cause users to switch from higher-priced commercially available contraceptives to methods available through social marketing. When this happens, desired increases in overall contraceptive prevalence may not occur. The lower price of methods promoted through social marketing, however, may attract new users. It may also encourage users of less-effective methods (condoms, spermicides, rhythm) to use more-effective ones. It may also turn "lapsed users", or persons who have stopped using contraceptives, into current users. To the extent that programmes achieve these effects, the investments in subsidies for social marketing generally attain their desired goals.

77. One advantage of the social-marketing approach is its ability to penetrate markets in inaccessible parts of developing countries by using community-based distribution (CBD) systems. It accomplishes this in part by integrating sales of contraceptives with marketing of basic necessities through traditional trading networks, In Nepal and other South Asian countries, for example, CSM/CBD efforts use village-level stores selling herbal medicine, cigarettes, tea and basic necessities as outlets to distribute contraceptives. Additionally, mobile publicity and education teams visit rural areas, distributing contraceptive samples while they broadcast population messages. Because of the price subsidies, the profit margin is acceptable to vendors, making selling contraceptives worth the vendors' while. CSM/CBD strategies thus augment not only government programmes that provide contraceptives to poor segments of the population but also commercial contraceptive sales aimed at higher-income groups.

78. In some countries, CSM/CBD programmes promote the use of contraceptives in remote communities by expanding private distributors' product lines. For example, distributors of child health supplies -- such as weaning formulae, children's vitamins and oral rehydration salts -- may begin carrying contraceptive supplies. This approach has achieved excellent results by promoting a balanced concept of family planning. Other countries have used attractive packaging of contraceptives (condoms are particularly amenable to such marketing techniques), sometimes including special brand names and symbols associated with CSM organizations. The results of socio-cultural research have served as excellent guides in choosing the proper balance between promoting family planning messages and integrating them into broader social programmes. Social-marketing programmes have been particularly sensitive to social-science research techniques and their application to contraceptive social marketing and distribution.

79. The most important aspect of social-marketing programme support is sustainability, or the ability of programmes to earn revenues sufficient to cover recurrent costs. (Presumably, a donor or donors provide support for start-up and other fixed costs.) Several studies have shown that low-income individuals will pay for contraceptive services at a level sufficient to cover recurrent costs if they think there are advantages in doing so. For example, in Thailand, where free contraceptives are available from clinics, many users are willing to purchase contraceptives from community-based distributors or from small neighbourhood stores because of convenience or anonymity. In Nigeria, a contraceptive-marketing system using market women (who earn a 25 per cent commission on sales) as distributors has been able to pay for itself.

80. If social marketing of contraceptives is to continue as an important channel for making contraceptives accessible to individuals in need, it should be more cost-effective than other means of contraceptive distribution. Calculating the cost in terms of couple-years-of-protection -- as defined by actual distribution of contraceptives to users or by distribution to outlets that later sell the contraceptives to consumers -- may verify cost-effectiveness.

81. A 1989 survey by the Family Planning Services Division of the USAID Office of Population attempted to determine the relative share of various programmes funded by the agency. According to the results, social marketing accounted for 2.1 million couple-years-of-protection in 1989. The couple-years-of-protection from social marketing constituted 29 per cent of all such protection in USAID-funded programmes. Of these, 38 per cent used IUDs; 38 per cent, oral pills; 1 per cent, injectables; 0.5 per cent foaming tablets; and 22 per cent, condoms. The study also found that social marketing was very important in making injectables, IUDs and condoms accessible to users. Among eight USAID-supported agencies, social marketing accounted for 68 per cent of all injectable use (measured by couple-years-of-protection), 56 per cent of IUD use, 56 per cent of condom use and 28 per cent of foaming tablet use.

V. COST OF CONTRACEPTIVE REQUIREMENTS

82. The UNFPA study of contraceptive requirements reveals that if the projected contraceptives and commodities required by the developing countries are purchased in the international market, the costs will be about $627 million in the year 2000 -- 57 per cent more than the 1990 total of $399 million (see table 4). The total cost will be more than $5 billion. This does not take into account service-delivery costs associated with infrastructure building, payment of service providers or costs for transport, storage and so forth. For specific methods, total costs over the decade are shown in table 4 below.

83. The highest regional contraceptive costs -- $295 million in 1990, rising to $449 million in 2000 --will be in Asia and the Pacific. Africa, however, will experience the highest proportional increase -- from $11 million to $43 million, or 290 per cent. The commodity cost for the Latin America and Caribbean region will increase from $57 million to $82 million, and the cost for the Arab States and Europe region will increase from $22 million to $44 million.

84. The cost of contraceptives would vary significantly, however, depending, on the source of supply, as well as volume and specifications of commodities. If contraceptives (excluding injectables) were purchased solely from United States sources, for example, the total costs would be $5.6 billion. These costs may vary, depending on volume or specifications. The biggest price difference by source would be for condoms, with the cost per unit purchased from United States sources 2.6 times that purchased through the international market (total costs would be $2.3 billion and $888 million, respectively). Similarly, IUDs purchased only in the United States would cost $378 million, as against $278 million through the international market. Oral pills, however, are cheaper in the United States than elsewhere, and if all supplies were purchased from United States sources, the cost would be $1.5 billion, rather than $1.9 billion.

Table 4. Developing Countries: Cost of Contraceptive Commodities if Purchased on the International Market, by Method, 1990-2000 (Millions)

Year	Sterili-zation $	Pill $	IUD $	Inject-ables $	Condoms $	Total $
1990	113	150	24	44	68	399
1991	118	155	24	47	72	416
1992	124	160	25	49	76	433
1993	129	165	26	51	80	450
1994	134	170	26	53	84	467
1995	139	175	27	56	87	484
1996	145	189	28	60	91	513
1997	151	204	29	64	94	542
1998	157	218	30	68	98	570
1999	162	232	31	72	101	599
2000	168	246	32	76	105	627
1991-2000	1,428	1,913	278	594	888	5,102

85. The introduction of NORPLANT contraceptive implants and their wider use in the coming decade will make quite a bit of difference in contraceptive costs. The UNFPA study of contraceptive requirements assumed that the number of NORPLANT acceptors will rise from 0.26 per cent of contraceptive users in 1990 to 3.0 per cent in 1995, and that this proportion will cost $750 million for the period 1991-2000. The study also assumed that if Norplant is not readily available during the period, about two-thirds of its potential acceptors will undergo sterilization; the rest will use other methods, primarily traditional ones. If the first assumption proves to be true, and the use of NORPLANT reaches 3 per cent in 1995, the number of sterilization acceptors will decline by 21 million during the 10-year period, and the cost of sterilization will fall by $197 million. Therefore, the net additional costs for introduction of NORPLANT and expansion of its use will be about $553 million.

86. On the basis of past patterns of contraceptive expenditures, the study projected that total costs of contraceptive requirements may be shared among the Governments of developing countries, the private commercial sector and the international donor community. In 1990, the total cost of $399 million was divided so that developing country Governments shouldered $242 million of the cost, the private sector, $69 million, and international donors, $88 million. By the year 2000, a reasonable sharing of the total costs of $627 million would have developing country Governments providing $320 million, the private sector, $109 million and the international donor community, $198 million. This would reflect a 9 per cent shift in costs from the Governments to the international donor community, a not unreasonable division given the severity of the economic crises being experienced by most developing countries.

A. Method of estimating contraceptive costs

87. To arrive at the cost figures mentioned above, the first step was to estimate the total requirements for each type of contraceptive. The next step was to determine the unit cost for each method, depending on source of supply. In the case of oral pills, condoms and injectables, estimates of new acceptors were based on numbers of current users. For sterilization and IUDs, estimates were based on annual numbers of acceptors between 1991 and 2000. The following average unit prices for procurement of the different contraceptives were used. Total cost estimates include an allowance of 15 per cent for shipping.

Commodity	Cost if purchased on international markets $	In USA alone $
Condoms	0.0174	0.0451
Pills		
Public Sector	0.19-0.23	0.1425
Social Marketing		0.256
Injectables	0.78	
IUDs-TCu 380A	0.78	1.06
Sterilization	8.24	8.24
NORPLANT	23.00	23.00

B. Current donor contributions

88. UNFPA asked various donors to provide information on how much they currently contribute to developing countries for contraceptive commodities. The information so far received indicates that the major donors are USAID, UNFPA and the International Planned Parenthood Federation (IPPF).

89. USAID procured $64 million worth of contraceptive supplies in 1990. This was considerably larger than the normal purchase level, which had averaged $42 million per year since 1985. USAID's contribution in 1991 may be slightly higher than the 1990 level. In 1990, 58 per cent of USAID's total support for contraceptive commodities went towards the purchase of condoms, 24 per cent towards oral pills, 7 per cent towards IUDs, and 3 per cent towards vaginal tablets. The remaining 8 per cent went to general logistical and mangement support for contraceptive provision.

90. UNFPA assistance for contraceptive commodities for developing countries amounted to $13 million in 1987 (including $4 million of procurement for Germany), $10 million in 1988 (including $0.2 million of procurement for Germany) and $12 million in 1989 (including $2.5 million of procurement for Germany). UNFPA's own expenditures for contraceptive supplies were therefore $9 million in 1987, $9.8 million in 1988 and $9.5 million in 1989. In 1990, UNFPA's total expenditures for contraceptive procurement in support of developing countries was $15.7 million (see table 5). Of this total, about 50 per cent or $7.8 million (all of this amount went to Bangladesh) was expended on behalf of other agencies, the World Bank ($7.3 million), and Germany ($0.5 million).

Table 5. UNFPA's Expenditure for Contraceptive Commodities, 1990

Comm/Region	Condoms	Implants	Inject-ables	IUDs	Pills	Spermicides	Total
	$	$	$	$	$	$	$
Africa	495,150	62,600	937,145	133,024	1,461,270	233,475	3,322,664
Asia and Pacific	131,500	3,500	1,284,780	321,400	0	0	2,487,420
Latin America	58,500	0	25,000	299,035	242,431	18,000	642,966
Arab States	90,000	49,000	235,700	319,193	484,225	261,000	1,439,118
Asia and Pacific*	2,071,000	0	1,130,000	0	4,652,000	0	7,853,000
Total	2,846,150	115,100	3,612,625	1,072,652	7,586,166	512,475	15,745,168

* Procurement on behalf of other agencies.

91. The total expenditure by method in 1990 indicates that $2.8 million ($2.1 million was for other agencies) went for condoms, $0.2 million for implants, $3.6 million ($1.1 million was for other agencies) for injectables, $1.1 million for IUDs, $7.6 million ($4.7 million was for other agencies) for pills, and $0.5 million for spermicides. The regional distribution of UNFPA's expenditure in 1990 shows that $3.3 million went for Africa, $10.3 million ($7.8 million was for other agencies) for Asia and the Pacific, $0.6 million for Latin America and the Caribbean, and $1.5 million for the Arab States and Europe.

92. IPPF supplied its affiliate members in developing countries with contraceptive commodities worth $5.4 million in 1988, $6.5 million in 1989 and $6.7 million (budgeted) in 1990. Oral pills accounted for 53 per cent of its donations in 1988 and for 58 per cent in 1990.

93. The World Bank has included procurement of contraceptives in loans for country population and health programmes such as those in Bangladesh, India, Indonesia and Kenya. It has also shown an interest in supporting the local production of contraceptives through concessional loan arrangements. Since 1988, when total World Bank lending for the population sector amounted to $82 million, assistance has more than doubled, reaching $169 million in 1990. The exact proportion of funds allocated for contraceptives is, unfortunately, not currently available, as it is incorporated in individual country programmes.

94. Other agencies also supply contraceptives to the developing countries. The Swedish International Development Agency (SIDA) plans to provide 17 million cycles of oral pills (worth $2 million) to Kenya each year during the period 1990-1993. The Canadian International Development Agency (CIDA) provided 43.2 million cycles (worth $5 million) to Bangladesh in 1986 and is considering another grant to the same country for supply of 130 million cycles. The British Overseas Development Administration (ODA) provided Pakistan with 400,000 doses of the injectable contraceptive Noristerat for fiscal year 1990-1991. ODA has also identified a number of other countries for contraceptive commodity assistance.

VI. SUMMARY OF MAJOR FINDINGS

A. The UNFPA study on contraceptive requirements

95. To achieve the United Nations medium-variant population projection by the year 2000, contraceptive prevalence must rise from 51 per cent in 1990 to 59 per cent in 2000. This means that some 567 million couples must be using some form of contraceptive at the end of the century. According to this projection, 151 million surgical procedures for female and male sterilization, 8.76 billion cycles of oral pills, 663 million doses of injectables, 310 million IUDs and 44 billion condoms will be needed in developing countries by the year 2000.

96. If the contraceptives required for the period 1991-2000 are purchased in the international market, they will cost about $5 billion. From an annual cost of $399 million in 1990, the bill for contraceptives will rise to $627 million by the year 2000. The cost for specific methods will be $1.9 billion for oral pills, $1.4 billion for sterilization, $888 million for condoms, $594 million for injectables and $278 million for IUDs. Wider use of the contraceptive implant NORPLANT will make a difference in total contraceptive costs. NORPLANT will cost about $750 million from 1991 to 2000. By region, the cost of contraceptives required in the 1990s will be about $3.7 billion for Asia and the Pacific, $224 million for Africa, $696 million for Latin America and the Caribbean and $340 million for the Arab States and Europe.

97. Regarding sources of funding, Governments of developing countries paid $242 million for contraceptives in 1990, the private commercial sector provided $69 million and the international donor community contributed $88 million. By the year 2000, developing country governments are projected to pay $320 million, the private sector $109 million and international donors $198 million, a grand total of $627 million for contraceptive requirements. This amount constitutes about one fifteenth of the total required by the year 2000 for supporting population activities, which was set at $9 billion by the Amsterdam Declaration adopted by the International Forum on Population in the Twenty-first Century (Amsterdam, 1989). Other components of this $9 billion target include data collection and analysis; MCH/FP service delivery costs; information, education and communication; population policy formulation and implementation; research; training; and special programmes.

98. Contraceptives are currently being manufactured locally in at least 23 developing countries and local production is under consideration in at least four others. Subsidiaries of multinational companies are often involved in the local production of oral pills and condoms, while the majority of domestic IUD manufacturing ventures have been undertaken by private companies. In four countries that are major consumers of contraceptives (Brazil, China, India and Indonesia) at least three methods (pills, condoms and IUDs) are produced locally with capacity approaching or exceeding their respective estimated commodity requirements. External assistance agencies have been quite active in supporting the local production of contraceptives. UNFPA has initiated, since 1970, local production projects in 12 countries including China and India. With funding by UNFPA and USAID, PATH has provided technical assistance and has been an executing agency for feasibility studies or implementation of contraceptive production in at least 10 countries. USAID and The Population Council have supported work in at least eight countries. Generally, external agencies have supported local contraceptive production in both the private and the public sectors.

99. Capacity for local production of contraceptives varies by region. In some regions (Asia and the Pacific and Latin America and the Caribbean) the local public and private sectors may meet most costs, although external assistance will be needed for technology transfer, equipment and training. In Africa, grants to cover 100 per cent of production costs may be needed, although concessional loans may also help with initial investment costs.

100. The private sector provides contraceptives in developing countries through commercial or social-marketing channels. In 25 out of the 108 countries studied for this report, the private sector was an important

source of contraceptives. Oral pill requirements supplied through the commercial sector will rise from 224 million cycles in 1990 to 337 million cycles in 2000. About 642 million condoms, 7.9 million injectables and 1.7 million IUDs will be supplied by the commercial sector by the year 2000. For individuals who do not have the economic means to purchase contraceptives in the open market, social-marketing and community-based distribution systems have made contraceptives more accessible.

B. Consultative meeting on contraceptive requirements

101. The consultative meeting that met at the United Nations in February (see para. 3 above) discussed the major findings of the UNFPA study on contraceptive requirements and cost. The remainder of this section provides a summary of the findings and recommendations of the participants. The magnitude of contraceptive requirements in developing countries in the 1990s calls for significant increases in resources and supplies and for improvements in the efficiency of current arrangements. The results of the UNFPA study presented at the meeting as well as the general discussions made it clear that resources available at present are not even sufficient to pay for current requirements of contraceptive commodities. To make appropriate contraceptives available to users, additional resources will be needed to improve methods for estimating contraceptive requirements and costs; strengthen contraceptive procurement and distribution; increase support for local production; improve technical assistance and training in logistics and management; and enhance interagency coordination and collaboration.

102. Participants noted that while the methodology used in the UNFPA study provided useful aggregate global estimates of needs it was now important to prepare country-by-country estimates that could serve as the basis for detailed programming. To start with, there was a need for more intensive studies in the 15 or so countries that make up about 90 per cent of contraceptive users in the developing world. The global study might be conducted every five years. More detailed estimates in the selected countries might be made every year or every two years.

103. In improving the arrangements for estimating contraceptive requirements and costs, the following measures should be considered:

(a) More accurate estimates of wastage in contraceptive use must be reflected in the projection of needs and costs;

(b) Estimates of contraceptive costs should not be confined to commodities and shipping. Cost of logistical requirements to actually make contraceptives available to final users should be included on the basis of specific country studies. Aside from transportation, storage, distribution and other costs, logistics may include management improvement, training and institutional development;

(c) In estimating condom needs, the additional requirements arising from prevention of HIV/AIDS should be noted. Great care must be exercised in estimating condom requirements and costs, however, because the magnitude of the need for HIV/AIDS prevention might overwhelm the figures for contraceptive requirements; and

(d) Estimates of contraceptive needs and costs should be tested against actual data on contraceptive prevalence provided by countries. Actual country experiences must be closely monitored and the results of such monitoring reflected in the methodology for estimating needs and costs.

104. Even conservative estimates of contraceptive requirements and costs in developing countries point to the need for improving current procurement processes and procedures to meet these requirements. The contraceptive procurement facilities available through UNFPA can be expanded for this purpose. The UNFPA mechanism should be flexible enough to accommodate procedures and approaches of some bilateral and international agencies that can function side-by-side as part of the proposed international system. The procurement arrangement should benefit from the data gathering and analytical system set up for estimating contraceptive requirements and costs. The ultimate objective of this co-ordinated procurement mechanism is to make available to developing countries the best contraceptives at the lowest available price.

105. Additional funds from Governments, donor agencies and other sources are needed to meet future contraceptive requirements. A central mechanism should be set up for pooling resources that may include funds earmarked for contraceptive commodities and supplies. Resources for meeting contraceptive needs may include grants as well as credit at concessional terms from the World Bank and other lending institutions.

106. Local production of contraceptives in developing countries should be encouraged and supported where conditions are appropriate. Support for local production might take the form of technical assistance, training, technology transfer, capital grants and concessional loans. The roles played by the public and private sectors in local contraceptive production must be carefully analysed, with particular attention given to feasibility and profitability of schemes, the setting up of co-ordinating mechanisms, and the meeting of internationally-set standards of quality contro'.

107. Support may be provided to help develop contraceptives locally drawing on traditional medicine (indigenous herbs, Ayurvedic approaches). Such support may be given through research, product development, information exchange and collaborative efforts. Development of contraceptives compatible with socio-cultural patterns in developing countries should be encouraged.

108. Because of the need to make the best contraceptives available to all potential and current acceptors, careful analysis of the channels for contraceptive distribution in developing countries should be carried out. In particular, the current modes of distribution -- private commercial channels, social-marketing, community-based distribution systems and the public sector -- should all be integrated into a national system. The final distribution arrangements in each country should be determined by actual local conditions rather than external influences and pressures.

109. A consultative group of interested parties should be set up to follow-up on these recommendations. The group should focus its attention on the following major items: (a) development of long-term (5-10 years) and short term (1-2 years) country-specific estimates, with the participation of all concerned parties; (b) review of procurement and supply arrangements through UNFPA and other concerned bodies with a view to obtaining lowest possible costs and the most efficient modes of delivery; (c) increase in resources and pooling of resources, whenever practicable; and (d) securing optimal operational coordination and cooperation among the agencies concerned. Such a group should meet in conjunction with other scheduled international meetings, e.g., the Governing Council, or as often as necessary, to carry out its tasks. The consultative group will bring the major findings to the attention of their Governments and authoritative bodies, and use its collective influence to promote coordinated efforts of all parties concerned.

VII. RECOMMENDATIONS

110. The Executive Director recommends that the Governing Council:

(a) Take note of the report of the Executive Committee on contraceptive requirements and demand for contraceptive commodities in developing countries in the 1990s;

(b) Endorse the need to develop and refine country specific estimates for contraceptive needs in developing countries that would include estimates for the cost of logistical requirements and to improve the transport, storage, distribution and management of contraceptive provision;

(c) Also endorse the expansion of contraceptive procurement facilities through UNFPA, working in cooperation with other interested parties to adequately meet developing country contraceptive needs; and

(d) Authorize the Executive Director to set up a consultative group of interested parties that would review estimates of short-term and long-term contraceptive requirements, improve procurement arrangements, increase resources for contraceptive provision and achieve operational coordination and cooperation in meeting contraceptive needs.